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THE JOURNAL OF LATIN AMERICAN GERIATRIC MEDICINE NOTA ACTUALIZADA

La persona mayor con demencia: nuevas evidencias y retos. XIX Curso (virtual) de la Academia Latinoamericana de Medicina del Adulto Mayor (ALMA)

The elderly person with dementia: new evidence and challenges. XIX (virtual) Course of the Latin American Academy of Medicine for the Elderly (ALMA)

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La Academia Latinoamericana de Medicina del Adulto Mayor (ALMA) es una organización sin ánimo de lucro que reúne anualmente, desde el año 2001 y de forma continua, a médicos geriatras y docentes universitarios de Latinoamérica y España, para revisar un tema de relevancia para la especialidad. Ante la situación creada por la pandemia de COVID-19, se decidió llevar a cabo el XIX Curso de forma virtual denominado "La persona mayor con demencia: nuevas evidencias y retos". El comité organizador se inclinó por este tema porque las personas adultas mayores son el grupo que más se compromete en esta entidad clínica y los avances en el tema, en particular en la última década, sustentan su relevancia en la Geriatría y su necesidad de capacitación y actualización.

Se seleccionó por concurso a 59 estudiantes de 17 diferentes países, que trabajaron con sus tutores de forma sincrónica y asincrónica durante seis semanas en la preparación de temas específicos individuales y de trabajos grupales para presentarlos en plenaria en sesiones sincrónicas durante cinco días. Los estudiantes fueron todos docentes universitarios de Geriatría y los tutores eran miembros de ALMA. Este curso tuvo el apoyo de siete profesores invitados de diversos países, 13 tutores de varias naciones de Latinoamérica y los respectivos integrantes de los comités de la Academia. Asimismo, contó con el apoyo de la *International Association of Gerontology and Geriatrics* y la Organización Panamericana de la Salud.

Como resultado de los trabajos en grupo de la primera fase, y luego de revisarse en plenaria ante todos los participantes, se desarrollaron 10 infografías que se presentan de modo resumido. En ellas se incluyen temas de gran relevancia, como aspectos epidemiológicos, instrumentos de evaluación, pruebas diagnósticas de imagen, incluido el papel de la TEP-18-FDG (tomografía por emisión de positrones con 18-flurodesoxiglucosa), la utilidad actual de la imagen por tensor de difusión (tractografía), y las pruebas funcionales y clínicas como la evaluación de la marcha. Esto se complementó con modalidades de intervención

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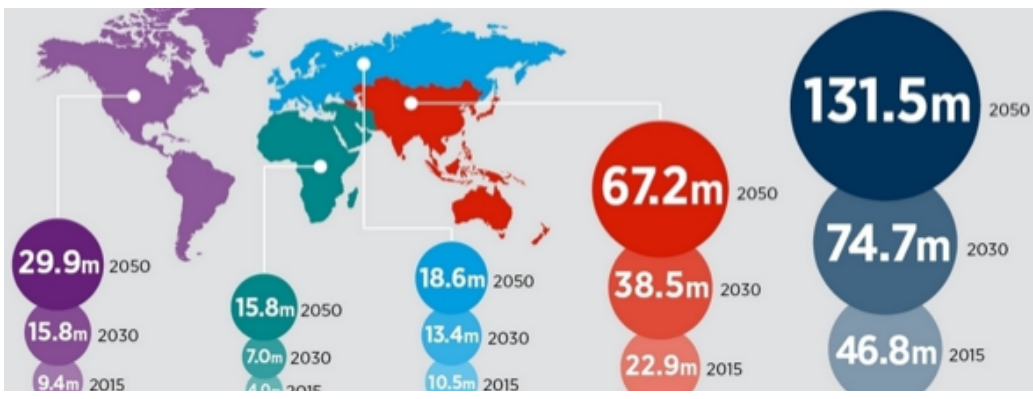
como la rehabilitación cognitiva y el papel de los centros de día en la atención de estos enfermos. Además, se incluyeron también otros dos temas de gran importancia, como los cuidadores y las trayectorias de las demencias al final de la vida.

Estamos seguros de que esta información será de gran ayuda para todos los que atendemos a la población adulta mayor y de modo muy especial a los pacientes con demencia, sus familiares y los cuidadores.

EPIDEMIOLOGÍA DE LA DEMENCIA EN LATINOAMÉRICA

La demencia es un síndrome que implica el deterioro de memoria, intelecto,comportamiento y capacidad para realizar actividades de vida diaria.

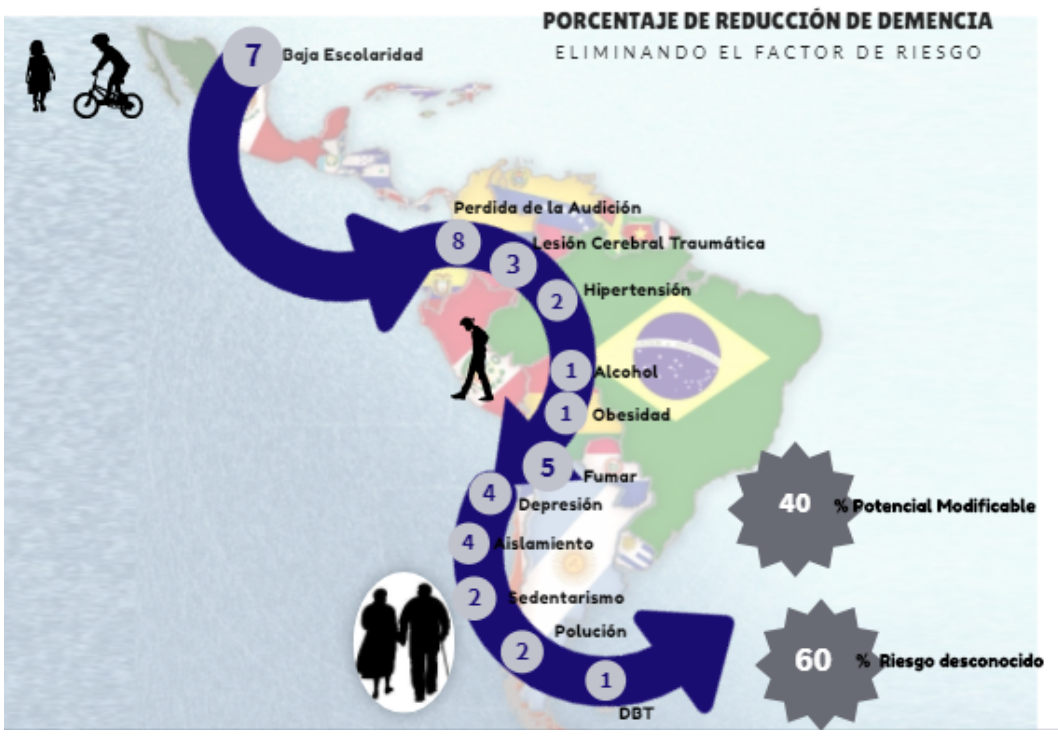
Latinoamérica y Caribe son regiones del mundo donde aumentará los enfermos con demencia.



Prevalencia: 8.4-11%

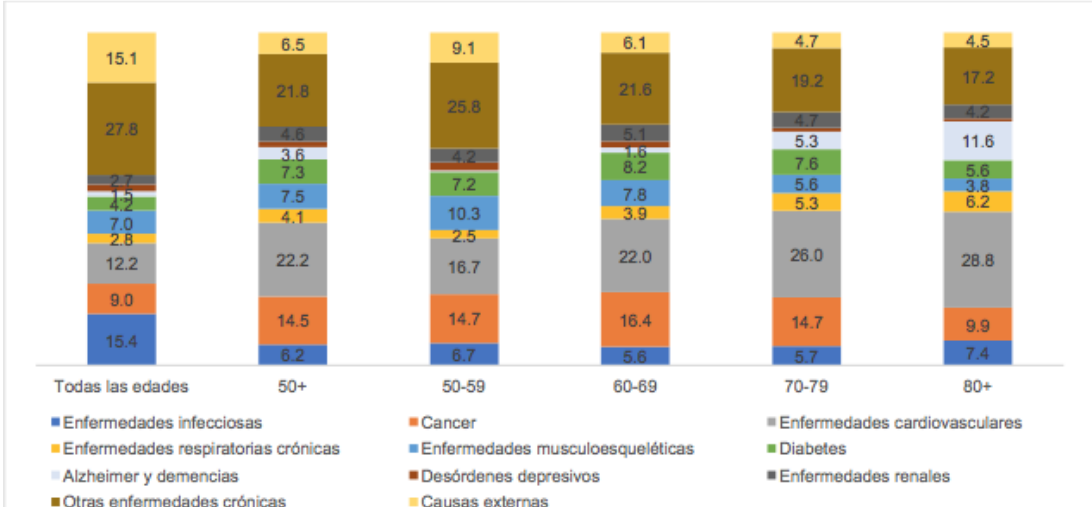
Incidencia: 7-20 pacientes/1000/año

FACTORES DE RIESGO



IMPACTO DE LA DEMENCIA

Es causa frecuente de dependencia en las personas mayores de 80 años



BARRERAS PARA EL DIAGNÓSTICO DE DEMENCIA

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Criterios e instrumentos para clasificar severidad en demencias

¿Por qué es necesario evaluar la severidad en las demencias?

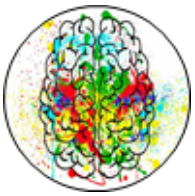
- Permite la clasificación del paciente en grupos para planificar las intervenciones, tanto farmacológicas como no farmacológicas, a las que el paciente es candidato.
- Ayuda a planificar los cuidados a largo plazo, identificando el mejor nivel de atención para el manejo .
- Sirve para la toma de decisiones en el entorno clínico permitiendo definir intervenciones avanzadas (ingreso a UCI, procedimientos quirúrgicos, tratamientos oncológicos, etc.).
- Permite optimizar el uso de recursos sociosanitarios.
- Da la oportunidad a los familiares y cuidadores de planificar decisiones a futuro.

Instrumentos para clasificar la severidad en demencias

Ventajas		Desventajas
- Basado en la clínica. - Alta confiabilidad inter-evaluador. - Con "Caja de Puntuación" se logra una versión más amplia y cuantitativa. - Validez en varios escenarios (ausencia de informante, cuidados crónicos, Demencia Frontotemporal).	**CDR** 6 componentes anexo 1	- Conocer y familiarizarse con las reglas de aplicación e interpretación. - Requiere de entrenamiento previo.
- Útil en estadios más avanzados o en personas con limitación para responder al interrogatorio. - Cubre un rango más amplio de progresión. - No requiere gran entrenamiento. - Rápida y autoaplicada.	**DSRS** 11 componentes anexo 2	- Depende del informante y su conocimiento del paciente.
- Instrumento independiente y útil para la medición de cambios multidimensionales: cognitivo, conductual y funcional.	**ADCS-CGIC** 15componentes anexo 3	- No es superior a otros instrumentos de medición funcional y cognitiva. - Validez y confiabilidad especialmente para uso en estudios clínicos.
- Instrumento más utilizado a nivel internacional. - Evalúa deterioro cognitivo y funcionalidad. - Adaptada al español. - Útil en Enfermedad de Alzheimer, Demencia Frontotemporal, Lewy, Parkinson, vascular y Deterioro Cognitivo Leve.	**GDS-FAST** 7 categorías de clasificación anexo 4	- Depende de información subjetiva.
- Valoración global del cambio. - Enfocada en hacer seguimiento de los pacientes. - Valora: funciones cognitivas, comportamiento y funcionalidad.	**CIBI** 7 componentes anexo 5	- Difícil aplicabilidad en la practica clínica diaria. - Debe ser aplicado siempre por el mismo médico. - Uso enfocado en investigación.

Conclusiones: Los componentes que debería incluir un instrumento de valoración de severidad son:


Funcional


Cognitivo


Conductual


Social


Seguimiento

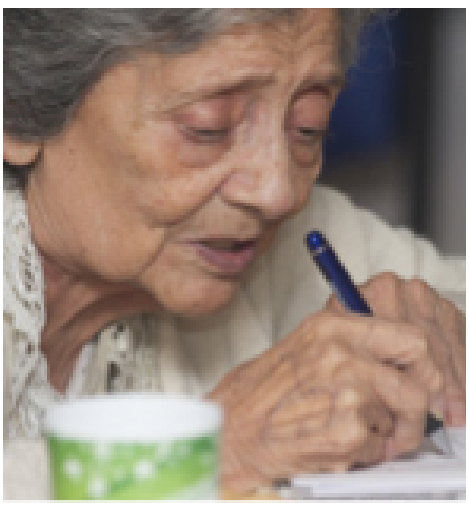
Grupo 1: Carolina Bernal López Hospital Star Médica Aguascalientes, México. Clarissa Botello, Hospital Irma de Lourdes Tzanetatos, Panama. Cristian Brujan Solano, Hospital Central de las Fuerzas Armadas , República Dominicana, Ivonne Becerra Laparra, Hospital Médica Sur, México. Luis Carlos Venegas, Rafael Samper-Ternent, The University of Texas Medical Branch.
Tutor: Raúl Hernán Medina Franco, ING México.

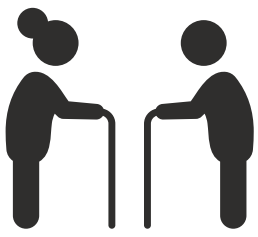
Referencias bibliográficas

SCAN ME

BARRERAS PARA EL DIAGNÓSTICO DE DEMENCIA

- **Acceso a la salud**
- **Inequidad socioeconómica**
- **Analfabetismo y bajo nivel educativo**





FACTORES RELACIONADOS A LOS SISTEMAS DE SALUD

- **Ausencia de sistemas integrados**
- **Escasos planes nacionales y regionales en demencia.**

FACTORES RELACIONADOS CON LA SOCIEDAD

- **Escasa conciencia de enfermedad**
- **Rechazo por personal sanitario**
- **Estigma social**

FACTORES RELACIONADOS AL PERSONAL DE SALUD

- Falta de formación de especialistas en nivel de pregrado y posgrado
- Falta de centros sanitarios especializados

CONCLUSIONES

La prevalencia e incidencia de demencia en Latinoamérica es mayor.

Se necesitan políticas públicas integrales para prevención, diagnóstico precoz y tratamiento oportuno.

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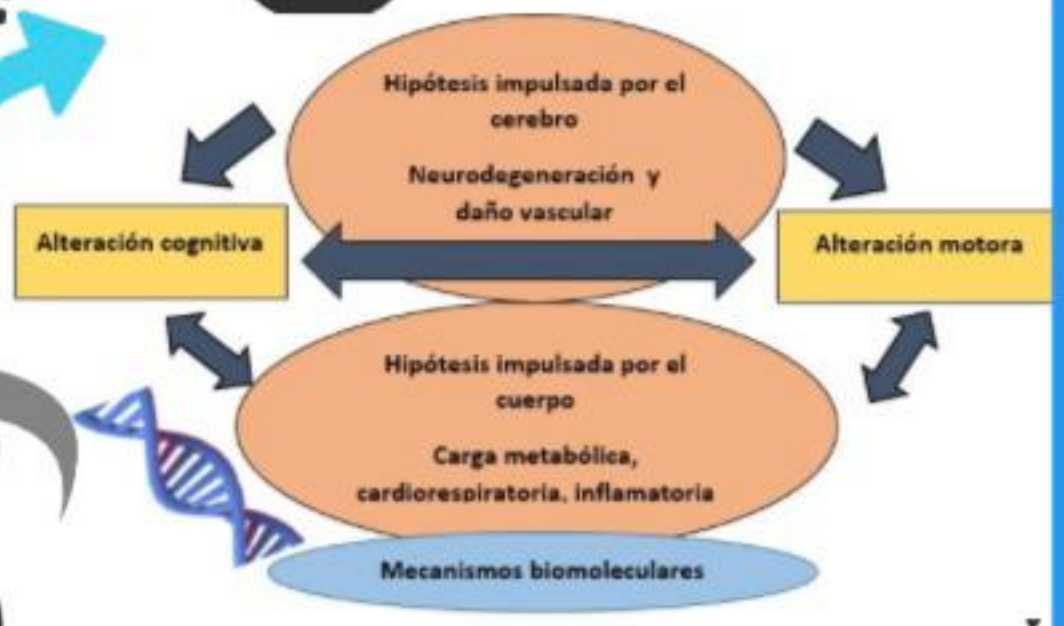
Trastornos de la marcha como predictor de deterioro cognitivo

1

Importancia

Los trastornos neurocognitivos suelen ser discapacitantes, por lo que resulta importante optimizar la identificación de grupos de riesgo para desarrollar demencia.

2 Fisiopatología



Velocidad de la marcha menor a 0,8 m/s= riesgo de caída

3 Medidas

- La velocidad de la marcha en un test sencillo y válido para la predicción de deterioro cognitivo, se recomienda en la práctica clínica
- La velocidad de la marcha, la variabilidad del paso y la doble tarea son las variables que se han asociado con riesgo de demencia.
- Los test de marcha de doble tarea se recomiendan en clínicas de memoria para identificar individuos con mayor riesgo.

4

Síndrome de riesgo cognitivo motor (MCR)

Duplica el riesgo de deterioro cognitivo leve y demencia, mayor asociación con enfermedad de Alzheimer y demencia vascular.

Condición previa a la demencia, combina signos motores (marcha lenta) y síntomas cognitivos (quejas cognitivas auto informadas) en sujetos con independencia en las actividades de la vida diaria en ausencia de demencia.

5 Retos

- Evaluación de diferencias regionales en las variables de la marcha como predictoras de deterioro cognitivo.

6 Conclusiones

- La evaluación y seguimiento de la velocidad de la marcha se recomienda en la práctica clínica diaria como marcador prodrómico de deterioro cognoscitivo.
- Los test de marcha de doble tarea se recomiendan clínicas de memoria para identificar los adultos mayores con mayor riesgo de desarrollo de deterioro cognitivo/ demencia

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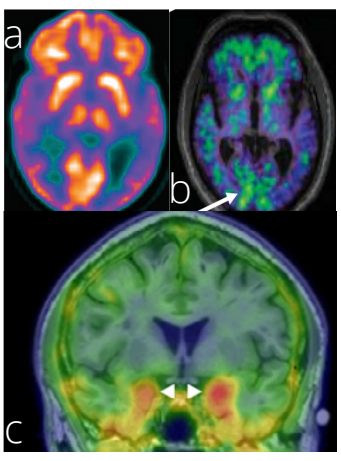
Tomografía por emisión de positrones (PET)

FDG, amiloide y tau

Baltazar-Bastidas A[1], Campoverde-Pineda EG[2], Fortes Villas Bôas PJ[3], Herrera-Landero A[4], Pardo-Amaya AM[5], Ramos-Borda UO[6], Rodríguez-Tapia JC[7]

[1]Instituto de Salud para el Bienestar, México, [2]Facultad de Medicina, Universidad Católica del Ecuador, [3]Botucatu School of Medicine - Unesp, Brasil, [4]Centro Médico ABC, México, [5]Hospital Universitario San Ignacio, Colombia, [6]Universidad Peruana Cayetano Heredia, Perú, [7]Departamento de Medicina, Pontificia Universidad Católica de Chile



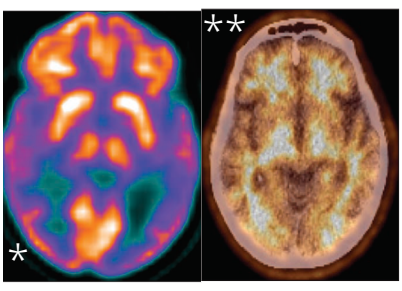
DEFINICIÓN Y RADIOTRAZADORES

Es una técnica de imagen funcional que usa radiotrazadores para visualizar y medir cambios en los procesos metabólicos y composición de los tejidos, en demencia se usa:

- **PET-FDG (a)** (Fluorodesoxiglucosa) muestra información del metabolismo celular, la ausencia o hipometabolismo indica neurodegeneración.
- **PET amiloide (b)** (Florbetaben, Florbetapir, Flutemetamol) se unen a las placas amiloides de la matriz extracelular.
- **PET tau (c)** (Flortaucipir) se une a la proteína tau, presente en los ovillos neurofibrilares.

INDICACIONES PET FDG* Y AMILOIDE**

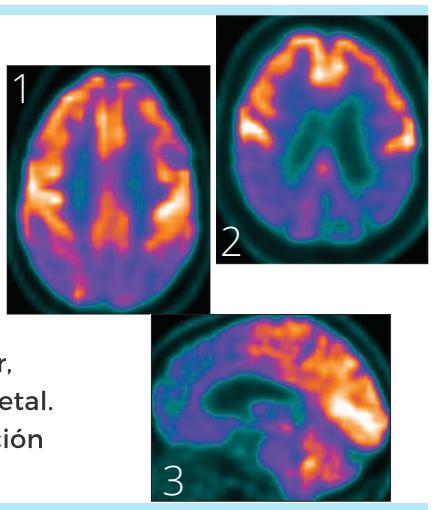
- Identificar en etapa prodrómica a la persona con enfermedad de Alzheimer (EA).
- Establecer el pronóstico y progresión del trastorno neurocognoscitivo leve a EA.
- Mejorar el diagnóstico diferencial de la EA con otras demencias.



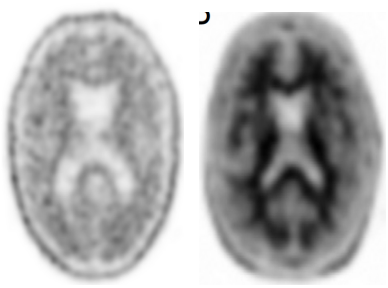
SENSIBILIDAD (S) Y ESPECIFICIDAD (E)

- EA vs controles sanos: S 94% / E 73%.
- EA vs anatomía patológica: S 85% / E 90%.
- Demencia frontotemporal (DFT) vs anatomía patológica (AP): S 87%.
- Demencia por cuerpos de Lewy (DCLw) vs AP: S 88% / E 100%.

HALLAZGOS DEL PET FDG



- **Envejecimiento normal**: hipometabolismo prefrontal.
- **Portadores apoE4**: hipometabolismo en la región frontal superior, parietal, temporal lateral y medial, núcleo caudado, tálamo, cíngulo posterior y amígdala.
- **Deterioro cognitivo leve**: hipometabolismo en corteza del cíngulo posterior (predominio derecho).
- **EA (1)**: hipometabolismo en la precuña y corteza cingulada posterior,
- **DCLw (2)**: hipometabolismo en los lóbulos occipital, temporal y parietal.
- **DFT (3)**: hipometabolismo en lóbulos frontales y temporales, afectación progresiva de los lóbulos parietales.



Positivo Negativo

HALLAZGOS DEL PET AMILOIDE

- **Cognición normal:** 35% muestran placas de amiloide.
- **EA:** Positivo.
- **DCLw:** Positivo o negativo.
- **DFT:** Típicamente negativo, puede ser positivo en afasia progresiva primaria.

CONCLUSIONES

- Su uso es limitado en Latinoamérica al requerir equipo costoso y de alta tecnología, poco personal capacitado en su interpretación, su utilidad principal es la investigación.
- No es una herramienta costo-efectiva, no hay diferencia en los años de vida ganados ajustados por calidad en comparación con el abordaje diagnóstico convencional.
- En el futuro podría tener mayor costo-beneficio, al incrementar el diagnóstico temprano, disminuir la institucionalización y la sobrecarga de cuidador.

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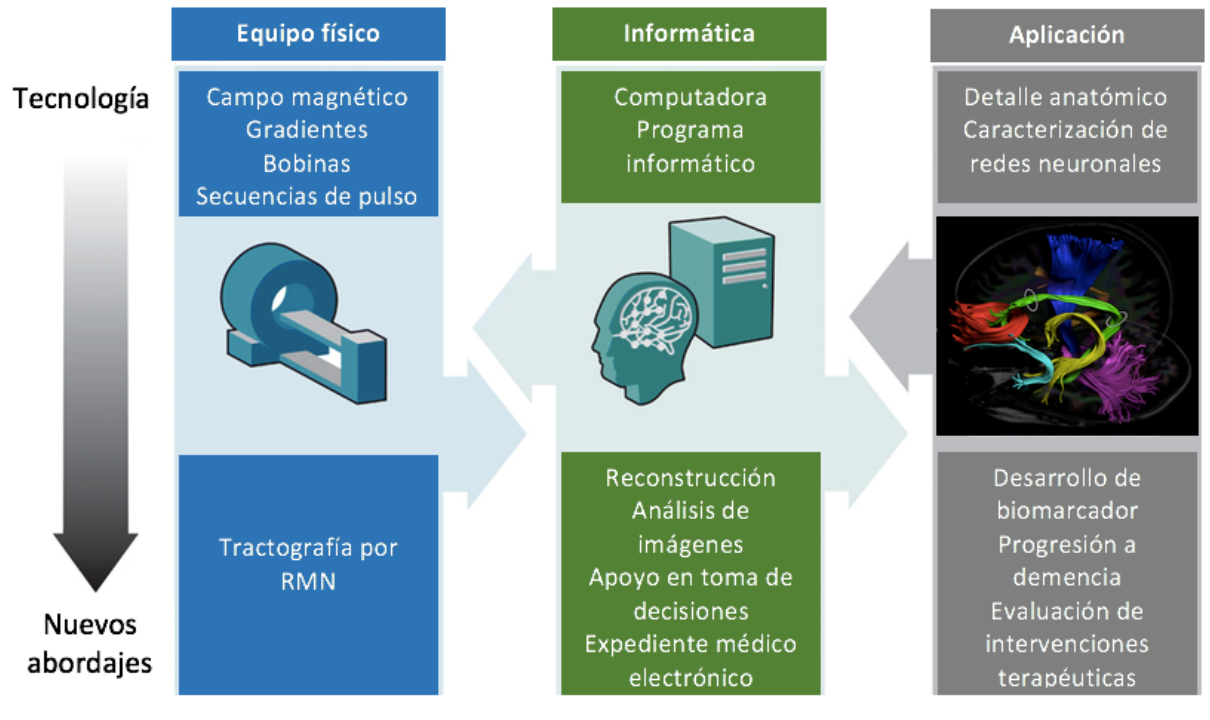
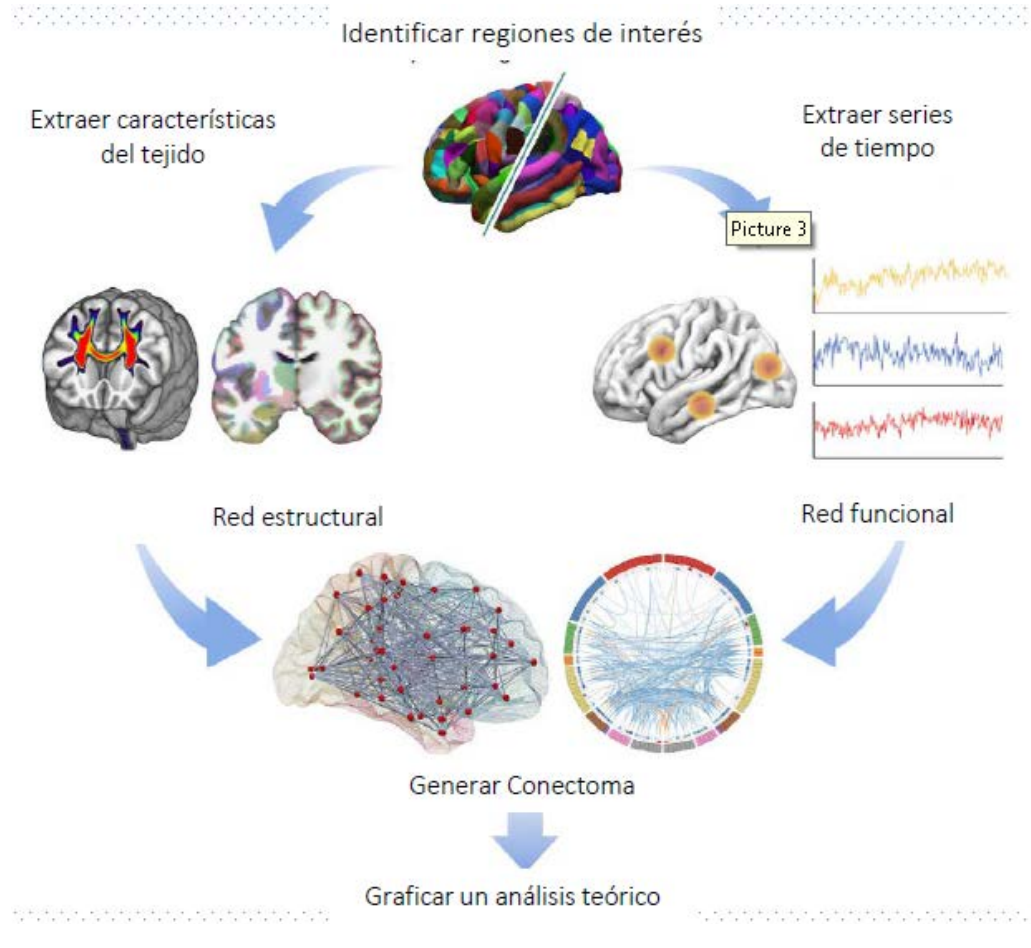
TRACTOGRAFÍAS Y CONECTOMAS EN DEMENCIAS

APLICACIÓN EN LA MEDICINA TRANSLACIONAL

María Victoria Arguedas Astua, Natalia Cristina Llado Aldama, Angeli Edith Penzzi González, Jorge Alberto Mena Madrazo, César Alberto Moreno Cervantes, Francisco Antonio Medina Mosley. Coordinador: Aldo Sgaravatti



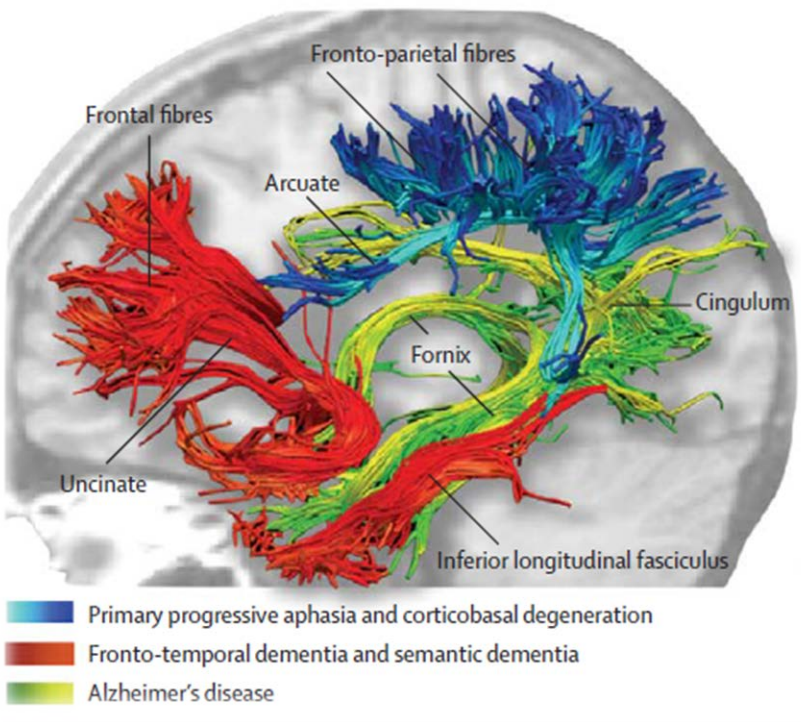


Tractografía

Técnica de Resonancia Magnética para el estudio de los tractos neuronales en la sustancia blanca

Conectoma

Mapa de conexiones entre neuronas

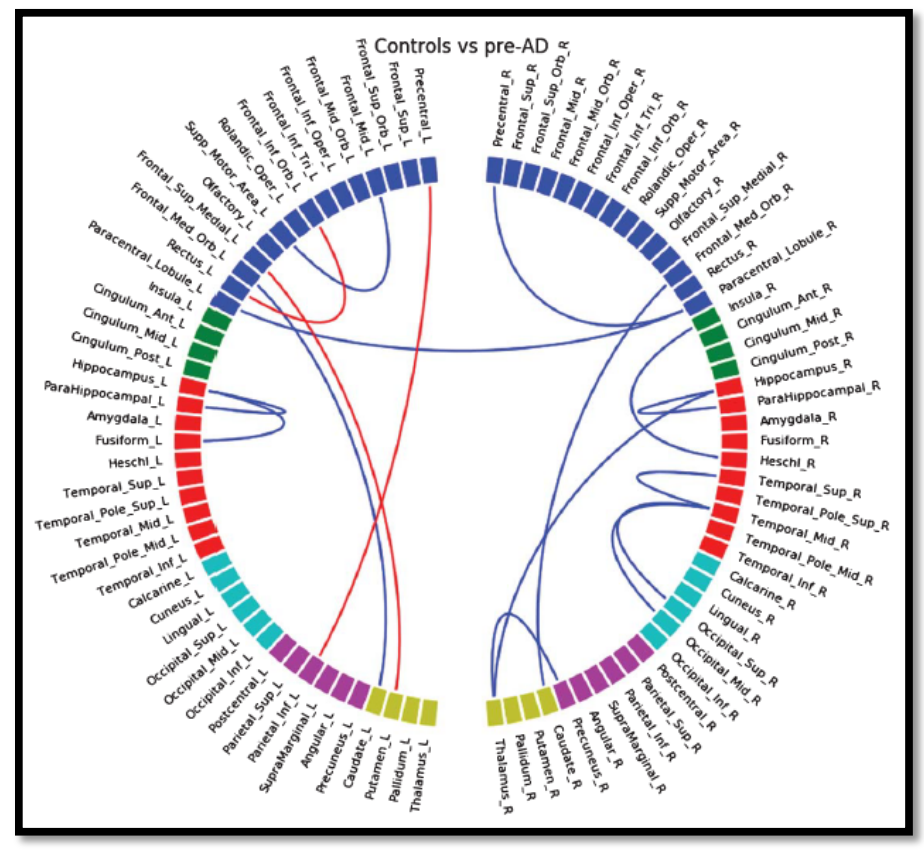


Indicaciones

Investigación y medicina traslacional

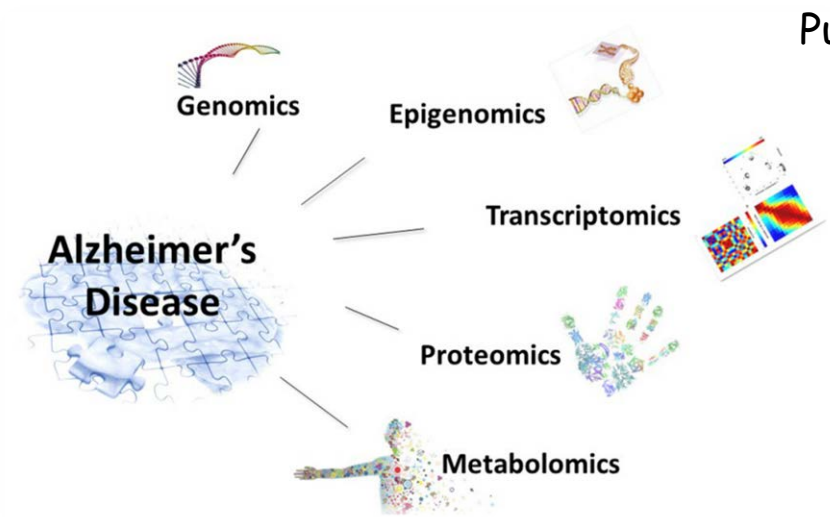
Aplicaciones

- Diferenciación entre los diferentes tipos de demencia
- Correlación con biomarcadores en etapas preclínicas



MEDICINA TRANSLACIONAL

Puente que conecta la medicina básica con la medicina clínica



Flujo de aprendizaje entre los avances tecnológicos (imagen, laboratorio, genética, medicina molecular, medicina nuclear, etc.) y la práctica clínica

Conclusiones: Las tractografías y conectomas permiten conocer a detalle la anatomía de las sustancia blanca en condiciones normales y la enfermedad, su uso actual es para la medicina traslacional, pero se plantea que en el futuro tenga aplicaciones clínicas.

EXPERIENCIA DE LOS CENTROS DE DÍA PARA LA ATENCIÓN DE LA ENFERMEDAD DE ALZHEIMER EN LATINOAMÉRICA

¿QUÉ SON LOS CENTROS DE DÍA PARA PACIENTES CON DEMENCIA?

Servicio socio-sanitario y de apoyo familiar de atención diurna caracterizada por una orientación integral y especializada, cuyo objetivo es maximizar sus capacidades cognitivas residuales y promover la funcionalidad dentro de su entorno habitual

OBJETIVOS

Aumentar la salud y el bienestar de los pacientes con demencia

Aumentar la salud y el bienestar de los cuidadores

Motivar a los cuidadores a brindar cuidados y retrasar la institucionalización

BENEFICIOS

Menor prescripción de psicofármacos

Capacitación de cuidadores informales

Disminución en problemas de conducta

Menor carga para cuidadores

CENTROS DE DÍA EN LATINOAMÉRICA

	Año 1º CD	Total CD	CD para pacientes con demencia	CD/AM	Inclusión en Plan Nacional de Demencias	Características
Chile	2012	52 públicos	8	1:43,000	Si	Sin registro de CD privados
Colombia	-	1216	?	1:4,000	No existe Plan Nacional de Demencias	No es un modelo de salud actual La mayoría son públicos y tienen actividades de club Ppredominan en el ámbito privado
Cuba	1980	306	4	1:11,230	Si	Creado como apoyo a cuidadores informales en su mayoría mujeres Atención especializada: *Detección *Rehabilitación interdisciplinaria NO hay centros privados
México	1982	196 CD 2122 Clubs	?	1:78,571	Sí	Instituciones públicas y privadas No se cuenta con registro exacto 2009 Primer Consenso Mexicano sobre los requerimientos para la formación de los Centros de día para adultos mayores con demencia en México
Paraguay	2000	4	No	1:150,00	No existe Plan Nacional de Demencias	Inicia como centros comunitarios (comedores) Los CD públicos funcionan como club de ancianos Los CD privados cuentan con mayor atención a pacientes con demencia

*CD: Centros de Día

Conclusiones

Los centros de día tienen beneficio para las personas con demencia y sus cuidadores

Existe poca evidencia en Latinoamérica

Retos

Lograr que todos los países incorporen los centros de día en su Plan Nacional

Generar evidencia homogénea para estandarizar la metodología en los centros de día para pacientes con demencia

Contar con el número suficiente de centros de día para poder atender la demanda en cada uno de los países de Latinoamérica

1.- ROKSTAD ET AL. THE ASSOCIATION BETWEEN ATTENDING SPECIALIZED DAY CARE CENTERS AND THE QUALITY OF LIFE OF PEOPLE WITH DEMENTIA. INT PSYCHOGERIATR. 2017 APR;29(4):627-636 2.- WILLIAMS, TAPPEN, STRESS IN PERSONS WITH DEMENTIA: BENEFITS OF A MEMORY CENTER DAY PROGRAM, ELSEVIER, 2016, 30:5, 531-538 3.- KWON HS ET AL. THE EFFECT OF COGNITIVE TRAINING IN A DAY CARE CENTER IN PATIENTS WITH EARLY ALZHEIMER'S DISEASE DEMENTIA: A RETROSPECTIVE STUDY. PSYCHIATRY INVESTIG 2020;17(8):829-834 4.- TRETTETEIG S ET AL. THE INFLUENCE OF DAY CARE CENTRES FOR PEOPLE WITH DEMENTIA ON FAMILY CAREGIVERS: AN INTEGRATIVE REVIEW OF THE LITERATURE. AGING MENT HEALTH. 2016;20(5):450-62

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DUAL TASK

Diagnóstico e intervención en demencias

Restas seriadas, conteo inverso, fluidez verbal

SIMPLE TASK (ST)

TAREA COGNITIVA

TAREA MOTORA

Velocidad de la marcha (VM) | Timed up and go (TUG) | Marcha con dispositivos de asistencia | Miembros superiores: flexión del codo

DUAL TASK (DT)

Dos tareas independientes que al realizarse de manera simultánea permiten una aproximación diagnóstica de Deterioro cognitivo leve (DCL)

Interferencia cognitiva motora (ICM)

Competición atención/ejecución --> deterioro en el rendimiento de cada tarea realizada en simultáneo.

$$\left(\frac{\text{DT-ST}}{\text{ST}} \times 100\right)$$ Costo de dual task

>20% se ha asociado con deterioro cognitivo leve y desarrollo de demencia

Utilidad en diagnóstico temprano en demencias

1. Refleja cambios sutiles en las actividades motoras en DCL
2. Permite intervenciones tempranas para prevenir el compromiso funcional.
3. Permite planificar la atención futura y la capacidad de toma de decisiones.

Propuesta para nuestra región

1. VM o TUG, adicionando tareas cognitivas, se pueden implementar en atención primaria en salud en la detección temprana de DCL.
2. Se deben validar otras pruebas de acuerdo al contexto y particularidades de la población a evaluar.
3. Promover la implementación dentro del Plan nacional de demencias en cada país.

Conclusiones

1. DT son herramientas que pueden ser útiles en la práctica clínica para el diagnóstico temprano de DCL y demencia en estadio temprano, para hacer intervenciones oportunas.
2. En los estudios revisados a medida que aumenta la complejidad de carga cognitiva la precisión diagnostica del DCL aumenta.
3. Se debe buscar estandarizar valores de referencia adaptados para la región para su uso en la práctica clínica.

Autores:

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1. Médicos Geriatras estudiantes de la Academia Latinoamericana de Medicina del Adulto Mayor (ALMA)

REHABILITACIÓN COGNITIVA

GRUPO 8

Ana Carolina Gama Gonzalez MD MsC.(1)(2) Karina Alejandra Rodriguez Quintanilla MD.(3)Saith de Jesús Hoyos Porto MD.(1)(2) Jose Antonio Yañez Luis MD.(3)(4) Jenny Fernández Vigil MD. (5) Juan Marcos Villón Almendras MD.(6) Alina María González Moro MD MsC. (7) Sandra M Caicedo Correa (1)(2)
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¿QUÉ ES?

Intervención no farmacológica que permite manejar los déficits cognitivos.

OBJETIVO

Mejorar la funcionalidad de las personas que viven con demencia, en sus contextos ambientales.

CARACTERÍSTICAS

Individualizada, con metas y objetivos relevantes para la persona.

BENEFICIOS

Mantiene la capacidad funcional, mejora la calidad de vida, disminuye la sobrecarga del cuidador.

CONCLUSIONES

- Es una estrategia de tratamiento no farmacológico centrada en la persona.
- La evidencia científica muestra sus beneficios.
- La tele-rehabilitación puede ser útil.

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Cuidadores de Personas con Demencia en Latinoamérica

Samir Aurachan M.D[a], Carlos Quiñonez M.D[b] , Guillermo L Dávila De La Llave M.D[c], Maria L Samudio M.D[d], Mayra Villalba M.D[e]
M.D: Médico Geriatra; b: Universidad Autónoma de Baja California, Aguas Calientes, México; c: Centenario Hospital Miguel Hidalgo, Aguascalientes, México; d: Independiente, Bogotá, Colombia; e: CEMAR 1, Bs.As. Argentina

¿Dónde estamos?

88% de los cuidadores en Latinoamérica son mujeres de la familia: hijas/esposas

- Inequidad, informalidad, inestabilidad
- Sistemas de salud y social desintegrados
- No hay legislación definida
- Gran costo económico
- Falta de sensibilización y adaptación de la sociedad
- Escasa formación de los profesionales

Áreas de oportunidad

Establecer redes de apoyo entre el sistema social y de salud

Sensibilizar y educar a la sociedad civil para cuidar

Identificar e intervenir en los problemas emergentes del cuidado

¿Qué se está haciendo en Latinoamérica?

- Legislando la tarea de los cuidadores
- Avanzando en el cumplimiento de la Agenda 2030 para el desarrollo sostenible de CEPAL
- Creando planes y políticas centrados en el cuidador
- Organizando e impulsando grupos de apoyo por la sociedad civil

Conclusión= Es necesario:

- ✓ Implementar políticas que dignifiquen la labor del cuidador
- ✓ Realizar acciones para vincular a los cuidadores a redes de apoyo social
- ✓ Realizar acciones para vincular a los cuidadores a procesos educativos, profesionalizando su labor
- ✓ Reconocer la labor del cuidador como un oficio
- ✓ Fomentar su productividad y perfil ocupacional

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Cuidados Paliativos en Demencias: Retos y Mitos Actuales

Ana Barboza, Bruno Boietti, Miguel Borda, Arlet Canon, Lourdes Mendez, Carolina Perez

¿Se reconoce la demencia como una enfermedad terminal?

La Demencia como proceso neurodegenerativo crónico e irreversible progresa a una condición de terminalidad, compartiendo la sintomatología de final de vida tal cual otras enfermedades crónicas en fase avanzada.

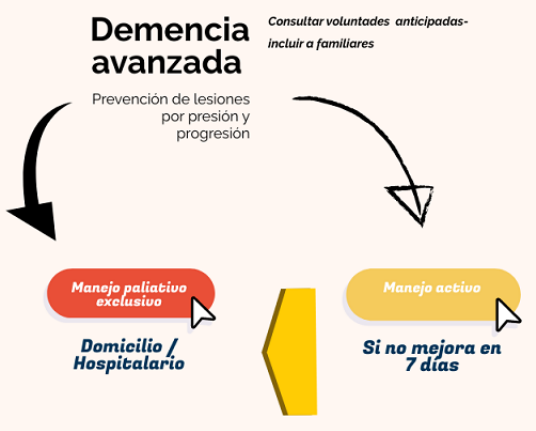
¿Cuándo iniciar los Cuidados Paliativos en la Demencia?

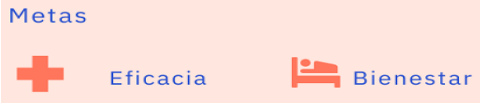
La toma de decisiones se debe realizar de forma planificada desde las primeras etapas de la enfermedad, de manera compartida entre el paciente, familia, cuidador y profesionales, siendo sumamente útil la planificación anticipada.

La **planificación anticipada** es la herramienta fundamental para ayudar a las personas a articular y documentar sus valores y preferencias de atención a medida que envejecen, para garantizar que el cuidado que reciben coincida con sus deseos, especialmente cerca del final de la vida.

Aspectos importantes a considerar en condiciones de terminalidad

- ✓ Información adecuada acerca del diagnóstico, pronóstico, los cuidados y objetivos en cada fase de la enfermedad.
- ✓ Identificación del dolor y otros síntomas agobiantes mediante escalas validadas para esta población que permitan el tratamiento oportuno
- ✓ Consensuar y valorar la pertinencia de intervenciones agobiantes: procedimientos invasivos, hospitalizaciones repetidas, consultas al servicio de urgencias, tubo de alimentación, medicación con efectividad limitada, entre otras
- ✓ Garantizar la adecuada atención mediante servicios continuados que promuevan la capacitación del familiar cuidador y optimizar el cuidado.





¿Cuáles son las principales tareas en que hay que entrenar a la familia?

- ✓ Brindar orientaciones para proteger al cuidador y a la familia del estrés.
- ✓ Acompañamiento y preservación del sentido del confort del enfermo.
- ✓ Cuidado con los medicamentos y su administración.
- ✓ Alimentación al paciente. Higiene y nivel funcional.

Conclusión: Equipados con el conocimiento actual, la previsión y la compasión, podemos llegar lejos para asegurar que nuestros pacientes con demencia vivan y mueran con paz y dignidad, dejando un legado positivo para aquellos a quienes dejan atrás.

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www.conameger.org PERMANYER J Lat Am Geriat Med. 2020;6(2):42-47

THE JOURNAL OF LATIN AMERICAN GERIATRIC MEDICINE ORIGINAL ARTICLE

Incidence and prevalence of delirium, associated factors, outcomes, and impact of geriatric assessment in hospitalized older adults in an acute geriatric unit in Mexico City

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Abstract

Objective: *The aim of the study was to know the incidence and prevalence of delirium in adults older than 85 years hospitalized in a geriatric acute unit.* **Methodology***: This was an observational, descriptive study. A total of 224 patients, aged 85 and over, were hospitalized at the Clínica Médica Sur hospital in the period of 2015-2016.* **Results:** *224 patients were included, mean age 89.3 ± 3.2, schooling 11.8 years, functionality measured by the Charlson index greater than two points 54%. In the analysis, patients with delirium had a higher risk of mortality odds ratio (OR) 7.5 with a confidence interval (CI) 2.84-19.92 (p ≤ 0.0001), an increase in hospital stay with an OR 3.27 CI 1.82-5.89 (p ≤ 0.0001). Predisposing factors, a Charlson index > 2 points had an OR of 2.28 IC 1.25-4.16 (p = 0.006), functionality by Katz < 5B had an OR of 2.82 IC 1.32-6.03 (p = 0.006) for delirium. The comprehensive geriatric assessment decreased delirium with an OR 0.5 IC 0.28-0.87 (p = 0.02).* **Conclusions:** *The prevalence of delirium in this population was 25.9%, cumulative incidence 7.5%. The incidence of delirium was associated with a longer hospital stay and mortality. Comprehensive geriatric evaluation was associated with a lower incidence of delirium.*

Key words: *Delirium. Incidence. Prevalence. Risk factors. Mexican population. Comprehensive geriatric assessment.*

Incidencia y prevalencia del delirio, factores relacionados, desenlace y efecto de la evaluación geriátrica en el adulto mayor hospitalizado en una unidad de cuidados agudos en la Ciudad de México

Resumen

Objetivo: *Conocer la incidencia y prevalencia del delirio en adultos mayores de 85 años hospitalizados en una unidad de cuidados agudos geriátricos.* **Metodología:** *Estudio observacional y descriptivo. Se integró un total de 224 pacientes, ≥ 85 años, hospitalizados en la Clínica Médica Sur en el periodo 2015 a 2016.* **Resultados:** *Se incluyeron 224 pacientes, con una edad media de 89.3 ± 3.2, escolaridad 11.8 años, funcionalidad medida por el índice de Charlson superior a dos puntos 54%. En el análisis, los pacientes con delirio tuvieron mayor riesgo de mortalidad, OR de 7.5 con un IC de 2.84-19.92 (p ≤ 0.0001), incremento de estancia hospitalaria con un OR de 3.27 e IC de 1.82-5.89 (p ≤ 0.0001). Factores predisponentes: un índice de Charlson > 2 puntos tuvo un OR de 2.28 e IC de 1.25-4.16 (p = 0.006); la funcionalidad por Katz < 5B tuvo un OR de 2.82 e IC de 1.32-6.03 (p = 0.006) para delirio. Por otro lado, la valoración geriátrica integral redujo el delirio con un OR de 0.5 e IC de 0.28-0.87 (p = 0.02).* **Conclusiones:** *La prevalencia del delirio en esta población fue de 25.9%, con una incidencia acumulada de 7.5%. La incidencia del delirio se acompañó de una mayor estancia hospitalaria y mortalidad. La valoración geriátrica integral se relacionó con menor incidencia de delirio.*

Palabras clave: *Delirio. Incidencia. Prevalencia. Factores de riesgo. Población mexicana. Valoración geriátrica integral.*

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INTRODUCTION

Delirium is also known as acute confusional state, altered mental status, and toxic-metabolic encephalopathy. The official definition of delirium in the DSM-5 requires acute disruptions in attention and conscience with a tendency to fluctuate[1].

Delirium is common among hospitalized elderly patients. One-third of patients over 70 years old in general medicine have delirium; this medical condition is present in half of the admitted patients, the other half will present it during hospitalization[2]. It is more common as a complication after surgery among the elders with an incidence of 15-25% after major surgery and 50% in high-risk procedures as hip fracture and heart surgery. Among those with mechanical ventilation in the intensive care unit, the cumulative incidence of delirium exceeds 75%[3], if comma and stupor are included.

Even though most physicians think that a patient with delirium would be restless or agitated, hyperactive delirium only represents 25% of cases[4]. Hypoactive delirium (still) is associated with a worse prognosis, maybe because it is less recognized[5,6].

Patients with delirium are at higher risk of presenting worse outcomes that include falls, infestation, and infections associated with catheter, weakness and more extended stays in hospital, a higher likelihood of physical restraints, and the use of antipsychotic medications[5]. In addition to the above, the possibility of death is 2-4 times greater within the 1st year after a stay in hospital. Patients with delirium who present in the emergency room have an increased risk of dying up to 70% in the following 6 months[7].

The prevalence of delirium at the time of admission to the hospital ranges between 14% and 24%; the incidence increases by up to 56%[8]. In post-operated patients, it occurs from 15 to 53% and 70 to 87% in patients in the intensive care unit. It has been observed in up to 83% of patients in the final stage of life. The mortality associated with delirium is 22-76% as high as that of patients with infarction or sepsis. The 1-year mortality related to delirium is 35-40%[2,9].

Despite the clinical importance of delirium, evidence to improve its management is scarce. In 2006, Siddiqi et al. determined the incidence of delirium and its outcomes through a systematic review of the literature. They found 42 cohort studies for the incidence and prevalence of delirium in hospitalized patients. The prevalence of delirium at the time of admission was 10-31%, the incidence or new cases was 3-29%, and the incidence rate per admission ranged between 11% and 42%. For the outcome, 19 cohort studies were used. Delirium was associated with an increase in mortality in the following 12 months after discharge (2 times more than the death rate, range 14.5-37), more extended stay in hospital (range 9-32 days) of 8.05 days (95% confidence intervals [CI] 3.59-12.51), institutionalization (odds ratio [OR] 2.8 95% CI 1.3-6.1), and persistence of symptoms: 39% transient symptoms in < 24 h, 29% recover and 32% persistence of symptoms on discharge[8].

It is well known that the presence of delirium not just influences mortality and days of stay in the hospital, specifically, each day that the patients present delirium associates with an increase of 20% of days of stay at the hospital and 10% of dying risk after 6 months[10]. This causes increases in costs of intensive care, USD 22,346 versus USD 13,332 and of hospitalization, USD 41,836 versus 27,106. Another important aspect is that up to 10-24% of patients with delirium will continue with cognitive impairment[10,11].

On the other hand, mortality reported 1 year after represents 48-68%; among discharged patients, only 9% recover the previous level of functionality. Other studies report a mortality rate of 84.5% after 6 months[12].

In 2014, the American Geriatrics Society and the American College of Surgeons published the clinical practice guidelines on the prevention and treatment of delirium[13]. These take into account the multicomponent non-pharmacological strategies, the health care workers' training to detect delirium and its etiology, and the optimization of pain management, avoiding the use of opioids. The pharmacological therapy will be used only to attenuate behaviors that may harm the patient or third parties (hallucinations, illusions, and aggression)[13].

Comprehensive geriatric assessment as well as a multidisciplinary intervention during surgeries have shown a decrease in the incidence of post-operative delirium observed in patients with hip fracture. The evidence suggests a reduction in the severity and duration of delirium; however, additional studies are required in other specific situations[14,15].

METHODS

This was an observational, descriptive, cross-sectional study where 224 patients over 85 years old hospitalized for more than 24 h in the acute geriatric unit (UGA) with comprehensive

geriatric assessment in the Medica Sur hospital during 2015-2016 were analyzed. Subsequently, the review of the electronic files was carried out in patients that met the inclusion criteria to create a database. The Confusion Assessment Method (CAM) was used to identify patients with delirium as well as the preceding use of antipsychotics during their hospitalization. Once made the diagnostic of delirium, all medical files were analyzed to determine their comorbidity index according to the Charlson index score, as well as to identify their demographic profiles, diagnosis at the moment of admission, admission site (emergency room or medical admission room), total hospitalization days, and in-hospital mortality. We also recorded daily the presence of 25 different risk factors reported in published studies as possibly associated with the development of delirium, in these, we included the use of central venous catheter and the intervention by the geriatric service during hospitalization. The comprehensive geriatric assessment is a multidimensional and interdisciplinary diagnostic tool, designed to identify and quantify malnutrition (MNA and DNA) and physical (Lawton and Brody), functional (Katz and Barthel index, Lawton and Brody scale), and psychic (GDS and MMSE).

Statistical analysis

For the qualitative variables, the report was made by frequencies and percentages. An analysis was made with the Chi-square test with the SPSS program to know the OR of the factors associated with delirium. Variables with $p < 0.05$ were included in the final results. All the laboratory studies were considered dichotomous variables according to the cutoff values considered normal in the central laboratory.

RESULTS

The study included 224 patients, 55% (125) of the population was female, the average age was 89.3 ± 3.2, the minimum was 85 years, and the maximum was 100 years, the average stay in hospital was 3 days, the minimum stay was 1 day, and the maximum stay was 40 days, the average educational attainment was 11.8 years (6-17 years), and the Charlson index score was higher than 2 points, 54% (n: 121). The functionality measured by the Barthel index was an average of 62.25 points (31.2-95) (Table 1).

The prevalence of delirium in 224 patients was 25.9%, and the cumulative incidence was 7.5%, this meant 17 new diagnosed cases of delirium during hospitalization, according to the CAM algorithm.

Table 1. Baseline characteristics

Variables	General characteristics. n: 224
Age	89.3±3.2
Female	55% (125)
Mean stay in hospital	3 days (2.0-6.0)
Educational attainment	11.8 (6-17 years)
Functionality (Barthel)	62.25 (30-95)
Charlson score higher than 2 points	54% (121)

Predisposing factors

The average age of patients without delirium was 88.8 ± 4.2 and in patients with delirium was 90.36 ± 4. The educational attainment among those without delirium was 11.30 years (0-27) and among those with delirium was 11.27 years (0-25). The length of stay in hospital was longer among those with delirium, 6.68 (36.52) versus those without delirium, 3.48 (7.58). The average Charlson comorbidity index in patients without delirium is 1.72 (2.09) versus patients with delirium 2.37 (2.15). The functionality measured by the Barthel index was higher in patients without delirium, 69.49 (40-95) versus patients with delirium, 49.56 (20-75). In patients without delirium, visual and hearing deficit were 58% and 70% versus 42% and 29% in patients with delirium, respectively (Table 2).

Regarding the Katz index in the univariate analysis, it was observed that those dependent in a real-life activity had OR 2.82 IC (1.32-6.037) and p: 0.29 for delirium, visual deficit OR 2.20 IC (1.01-4.78) $p = 0.04$, and hearing deficit OR 3.00 IC (1.21-7.39) $p = 0.01$, and Charlson > 2 points OR 2.28 IC (1.25-4.16) $p = 0.006$ (Table 3).

Precipitating factors: As precipitating factors for delirium, the fact of having anemia defined with a hemoglobin value lower than 12 g/dl had OR 2.05 IC 95% 1.13-2.72 ($p = 0.01$), shock OR 5.05 IC 2.34-10.87 ($p \leq 0.0001$), central venous catheter OR 3.22 IC 95% 1.64-6.31) ($p = 0.001$), visual deficit had OR 2.2 IC 95% 1.01-4.78 ($p = 0.04$), and hearing deficit had OR 3 IC 95% 1.21-7.39 ($p = 0. 01$), and pneumonia OR 3.63 IC 1.84-7.12 ($p \leq 0.001$) (Table 4).

Table 2. Predisposing factors of delirium

Population n=224	Without delirium 66.5%(149)	With delirium 33.5% (75)	p
Age	88.8 ± 4.2	90.36 ± 4	0.18
Educational attainment	11.30 (0-27)	11.27 (0-25)	0.23
Charlson	1.72 (2.09)	2.37 (2.15)	0.007
Barthel index	69.49 (40-95)	49.56 (20-75)	0.008
Katz index<5B	21% (12)	78.9% (45)	0.006
Visual deficit	58% (66)	42% (47)	0.03
Hearing deficit	70% (69)	29% (29)	0.01
Charlson>2	57% (70)	42% (51)	0.01

Table 3. Univariate analysis of predisposing factors

	OR	IC	p
Lower Katz index 5B	2.82	(1.32-6.037)	0.29
Visual deficit	2.20	(1.01-4.78)	0.04
Hearing deficit	3.00	(1.21-7.39)	0.01
Charlson>2 points	2.28	(1.25-4.16)	0.006

Table 4. Precipitating factors of delirium

	OR	IC	p
Anemia	2.05	(1.13-2.72)	0.01
Pneumonia	3.63	(1.84-7.12)	< 0.001
Shock	5.05	(2.34-10.87)	< 0.001
Venous catheter	3.22	(1.64-6.31)	0.001

Outcomes and stay in hospital: In the univariate analysis, it was found that those diagnosed with delirium had OR 7.5 (IC 95% 2.84-19.92) regarding mortality ($p \leq 0.0001$). There was an increase in the stay in hospital (more than 3 days) in patients with delirium OR 3.27 (IC 95% 1.82-5.89) ($p \leq 0.0001$) (Table 5).

Geriatric care: There was found a protection value not to develop delirium during the stay in hospital in those patients who received a comprehensive geriatric assessment with OR 0.5 IC 0.28-0.87 p = 0.02 (Table 6).

Table 5. Delirium and stay in hospital

	OR	IC	p
Stay in hospital (> 8 days)	5.7	(12.5-12.9)	< 0.001
Stay in hospital (> 4 days)	3.27	(1.82-5.89)	< 0.001
Mortality	7.5	(2.84-19.92)	< 0.001

Table 6. Geriatric assessment

	OR	IC	p
Geriatric assessment	0.50	(0.28-0.87)	0.02

DISCUSSION

Our first finding was that the prevalence of delirium in UGA in Mexico, 25.9% (58), was lower compared to the Chávez-Delgado study, where 38.3% was reported. The cumulative incidence was 7.5% (17), which was lower than the one reported in the Villalpando-Berumen study of 12%. In the review made by Najma Siddiqi, the reported prevalence was 10-31%, and the incidence was 3-29%, which matches the one we found in our hospital. A feature of this study that should be noted is the average age of our population, which was 89.3 years compared to the one reported by Villalpando-Berumen, which was 73.55, and the one reported by Chávez-Delgado, which was 78.2 years; all of this studies were made in Mexican populations as well[16,17].

In our country, two studies serve as a reference to this research. The first one was carried out in the *Instituto Mexicano del Seguro Social* (Mexican Institute of Social Security) in 2000; it included patients over 60 years old of the Geriatrics Service. The evaluation method used for the confusional state or delirium was CAM, and the Mini-Mental State Examination was used for cognitive impairment. Comorbidity, days of stay in hospital, and mortality were also analyzed. The prevalence reported was 38.3%, and the incidence was 11.7%. Previous cognitive impairment was observed in 48.5% of patients who developed delirium. Patients with delirium were older (80 ± 8.7 vs. 74.4 ± 8.9 years, $p < 0.001$), had longer stays in hospital (7.5 ± 2.9 vs. 5.8 ± 2.6 days, $p < 0.001$), and presented more hospital mortality, but without significant statistical difference[17].

The Villalpando-Berumen et al. study conducted in Mexico City in 2003 determined incidence, likely risk factors, causes, and long-term survival in hospitalized patients with delirium. Patients over 60 years old (667) were selected, the results were 12% of incidence of delirium with daily application of CAM, 50% of cases were attributed to > 2 triggering causes, 10% to insufficient control of pain, and 7.5% to the precedent of previous surgery. A significant increase was observed in the number of cases of delirium in patients over 75 years old ($p < 0.001$) with low educational attainment ($p = 0.04$), comorbidity ($p = 0.001$), hematocrit lower than 30% (relative risk [RR] 2.1, CI 1.2-4.1), and glucose levels > 140 mg/dl (RR 2.1, IC 1.2-3.6). The patients with delirium had prolonged hospital stay 13.4 ± 10.7 days versus 10.2 ± 6.6[16].

The mortality found in this study was 24% for patients who presented delirium, it was higher than the one reported by Villalpando-Berumen of 6.1% and by Chávez-Delgado of 4.1. This can be explained by the geriatric population studied and the average age, which is higher than 85 years and represents a group with comorbid states and complications that increase the cascade of adverse events[17].

The average stay in hospital found in patients with delirium was 6.6 days, which was lower than that reported by Villalpando-Berumen of 13.4 days and Chávez-Delgado of 7.5 days. As in the previous studies and at the international level, days of stay in hospital increase in those with delirium, compared with those who did not develop it in the Najma Siddiqi review. An average stay in hospital of 8.5 days, CI 3.59-12.51 was reported; nevertheless, the variability is very extensive in the literature with a range of 9 to 32 days[8].

The Charlson index higher than two points indicates increased risk to present delirium, which has already been recognized in previous studies such as the Villalpando-Berumen, which used the CIRS comorbidity index (Cumulative Illness Rating Scale) and seems to indicate that the higher the comorbidity, the higher the risk of presenting delirium[18].

The Katz index was used to evaluate functionality, a score lower than 5B was associated with delirium with an OR 2.82 with CI (1.32-6.03); compared in the study by Sharon K. Inouye OR 2.2 (1.4-3.6), similar to that found in this study. It is well known that sensory deficit, whether visual or hearing, contributes to the appearance of delirium. In our work, we found OR 2.2 (1.01-4.78) for hearing deficit and OR 3.00 (1.21-7.39) for visual deficit, in the Sharon K. Inouye study, the sensory deficit was OR 2.2 (1.2-4.0). The hemoglobin value lower than 12 g/dl associates with a higher incidence of delirium, possibly due to lower brain oxygenation, other conditions related to the presence of infection, in particular, pneumonia and severity of illness such as shock, which, in turn, leads to the use of a central venous catheter.

Another interesting finding of this study was the absence of orthopedic association between delirium and general surgery[19]. The total number of surgical events was 80, corresponding to 35% of the population involved. It is also known that surgical events are associated with delirium in the post-operative period, with the highest incidence in cardiac, orthopedic, and emergency surgeries in this hospital a predominance in general surgery procedures was observed[20].

The geriatric approach seems to protect the development of delirium during hospitalization. To the best of our knowledge, we did not find studies that associated delirium with formal assessment by the geriatric service. The comprehensive geriatric assessment, as well as the multidisciplinary intervention during surgical events, has shown a decrease in the incidence of post-operative delirium observed in patients with hip fracture; however, there are few studies in other specific situations; therefore, it is one of the greatest strengths of this study[14].

One of the advantages of this study was to know the characteristics of the population over 85 years old with a tendency to develop delirium, which allowed to establish that the main factors responsible for the appearance of delirium constitute causes whose diagnosis and timely treatment will help to restore the patient to a normal condition.

Some of the disadvantages of the study were not to evaluate the recurrence, hospital readmission, and post-discharge mortality.

CONCLUSIONS

In the population group of hospitalized Mexican elders, the prevalence and incidence of delirium were similar to that reported in the world literature. The prevalence and incidence of delirium were associated with a longer stay in hospital and higher mortality. The main risk factors associated with the incidence of delirium were anemia, Charlson index higher than 2 points, shock, pneumonia, and use of a central venous catheter. The geriatric approach in this study protects the development of delirium.

Ethical approval for the study was obtained from the Human Research Ethics Committee, Fundación Clínica Médica Sur, México City, Mexico.

CONFLICTS OF INTEREST

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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ETHICAL DISCLOSURES

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

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Transcultural validation of tools for the assessment of patient preferences and health outcomes prioritization among older Mexican adults with cancer

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Abstract

Introduction: *It is vital to include patient preferences in shared decision-making, however, existing tools were created in high-income nations. We translated and validated three health outcome prioritization tools (developed in the USA) among older Mexican adults with cancer.* **Methods:** *The tools (Health Outcomes Tool, Now vs. Later Item and Attitude Scale) were translated to Spanish and tested for feasibility, reliability, and construct validity. Feasibility: proportion of patients able to answer without help. Reliability: using Cronbach's alpha (for Likert scales). Construct validity: comparing consistency of tools addressing the same outcomes.* **Results:** *A total of 145 patients age ≥65 with solid tumors participated (median age 73 years, 65-88). Only 29% (n = 43) were able to answer on their own. Internal consistency of the two subscales of the attitude scale was of 0.46 and 0.43, respectively. Consistency between tools measuring the same outcomes was poor.* **Conclusions:** *We could not demonstrate feasibility, reliability, and validity of this tool among Mexican older adults with cancer. Creating culturally appropriate tools to assess preferences remain a priority in developing countries.*

Key words: *Older adults. Cancer. Validation studies. Patient preferences. Mexico.*

Validación transcultural de herramientas para la valoración de objetivos y preferencias en salud en adultos mayores mexicanos con cáncer

Resumen

Introducción: *Es fundamental incluir las preferencias de los pacientes en la atención médica centrada en el paciente; infortunadamente, las herramientas existentes se crearon en países desarrollados.* **Métodos:** *Se tradujeron al español y se validaron culturalmente las herramientas (Health Outcomes Tool, Now vs Later Item y Attitude Scale, originadas en Estados Unidos) en adultos mayores mexicanos con cáncer; se determinaron factibilidad, confiabilidad y validez del constructo. Factibilidad: proporción capaz de responder sin ayuda. Confiabilidad: alfa de Cronbach (escalas Likert). Validez del constructo: consistencia de herramientas que miden los mismos desenlaces.* **Resultados:** *Participaron 145 pacientes ≥ 65 años, con tumores sólidos (media de 73 años, 65-88). Únicamente 29% (n = 43) de los individuos fue capaz de completar las escalas solos. La consistencia interna de las subescalas de la Attitude Scale fue de 0.46 y 0.43, respectivamente. La consistencia entre herramientas que miden los mismos desenlaces fue pobre.* **Conclusiones:** *No fue posible demostrar la factibilidad, confiabilidad y validez de estas herramientas en adultos mayores mexicanos con cáncer. Es prioritario crear herramientas apropiadas para evaluar preferencias en salud en países en desarrollo.*

Palabras clave: *Adultos mayores. Cáncer. Estudios de validación. Preferencias de los pacientes. México.*

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INTRODUCTION

The increase in global life expectancy has led to a demographic transition characterized by a larger number of older adults. Between 2015 and 2050, the global proportion of persons aged 60 years and older will nearly double, going from 12 to 22%[1,2]. At the same time, there has been an increase in the incidence of chronic diseases such as cancer. According to GLOBOCAN, in 2018, there was a worldwide prevalence of 664 cancer cases (excluding non-melanoma skin cancer) per 100,000 inhabitants aged ≥60 years, with a cancer-related mortality rate of 678 deaths per 100,000[2].

Due to the increased cancer incidence, many older patients are faced with making difficult decisions regarding their treatment options. Such treatments frequently have undesirable side effects, including a considerable risk of clinically significant toxicity, morbidity, and mortality[3]. Unfortunately, patients often lack sufficient knowledge to make truly informed treatment choices[4]. To facilitate the decision-making process, guidelines with specific therapeutic goals have been developed. However, many of these differ considerably from those of the patients, mainly because patient preferences are not taken into account when developing those documents[5]. A study evaluating the integration of patient preferences in the development of 61 US practice guidelines found only 6% contained information regarding patient goals and preferences[6].

Various tools to assess patient preferences have been developed to help older adults organize priorities regarding health outcomes[3]. Although these tools are useful in populations from high-income countries (HICs), they have not been tested in low- andmiddle-income countries (LMICs), where there are significant disparities which might influence their applicability. Therefore, there is a need to validate these tools in LMIC to determine if their usefulness.

Since their development, the tools have been used in different scenarios and have been adopted by societies such as the American Geriatrics Society, which recommends the use of outcome prioritization tools in its Guiding Principles for the Care of Older Adults with Multimorbidity[7].

The aim of this study was to translate and transculturally validate three self-administered English language patient preference and health outcomes prioritization tools among older adults with cancer in Mexico. This was intended as a first step before being able to integrate them into usual clinical practice.

MATERIALS AND METHODS

Inclusion criteria

Between April and November 2018, 150 consecutive patients aged ≥65 seen at the oncology clinics at Salvador Zubirán National Institute of Medical Sciences and Nutrition (INCMNSZ), a cancer center in Mexico City, were invited to participate. All participants had solid tumors (any type and stage) and could be receiving either active treatment or follow-up. Patients were required to be able to read and write in Spanish. We excluded patients with severe visual impairment and with a diagnosis of moderate/severe cognitive impairment. The study received approval from the INCMSNZ ethics committee.

Outcomes prioritization tools (Fig. 1, Table 1)

Health outcomes tool (Fig. 1A)

This instrument is used to externalize health preferences, compelling the patients to prioritize the outcomes most important to them. It was developed in the US on community dwelling patients of 65 years or older[3]. This tool asks patients to rank four outcomes (prolonging survival; maintaining independence; reducing or eliminating pain; and reducing or eliminating other symptoms such as dyspnea, fatigue, or dizziness) by order of importance on a 1-100 visual analog scale. Through standardized interviews, it was determined that 73% of the patients adequately understood the scales, although test-retest showed a moderate reliability, with a kappa of 0.28 to 1.0. Patients who chose survival over other outcomes were considered to value quantity over quality of life.

Now versus later item (Fig. 1B)

This instrument is composed by two items, and its objective is to determine if the patient has a clear vision of the present and/or the future according to his/her health[3]. This item determines if the present quality of life (QoL) is more important/as important/less important than future quality of life. To do this, patients are asked to complete two visual analog scales, which go from –100 to +100, choosing between their QoL now and their QoL at 1 year, and between their QoL now and their QoL at 5 years. Patients who chose either QoL at 1 or 5 years as more important were considered to value future QoL over present QoL.

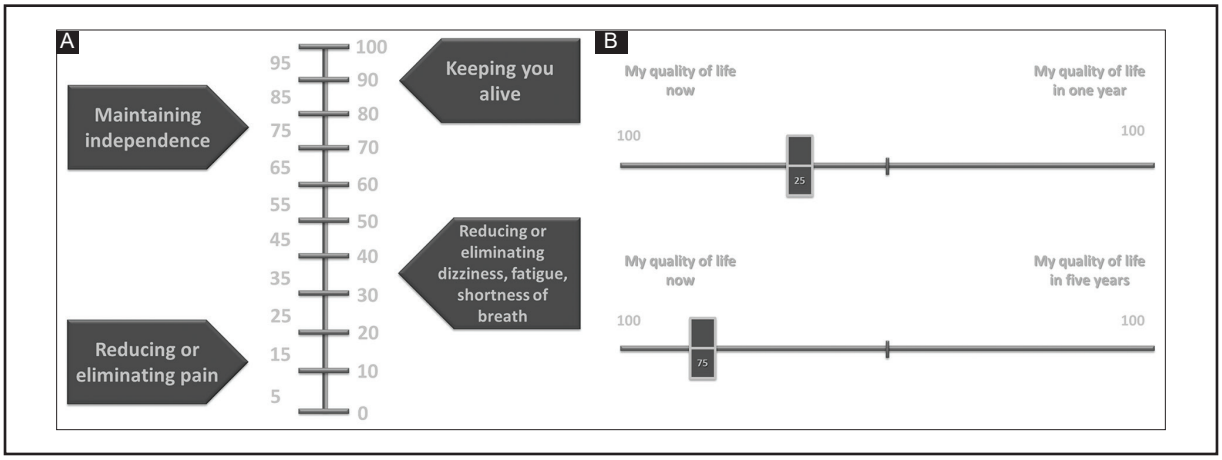

Figure 1. *Panel A. Health Outcomes Tool[3]. Panel B. Now vs. Later item.[3]*

Table 1. Statements included in the attitude scale[3,7]

Quality versus quantity of life subscale	
1	The most important thing to me is living as long as I can, no matter what my quality of life is.
2	I would rather live a shorter life than lose my ability to take care of myself (daily activities).
3	It is more important to me to maintain my thinking ability than to live as long as possible.
4	If I had to choose between living as long as possible or being free from pain, I would choose living as long as possible.
Present versus future health subscale	
5	I am willing to have side effects right now if it means I could have a better quality of life in the future.
6	I would prefer to take fewer medications, even if it meant that I would not live as long.
7	I am willing to visit the doctor more and have more of a restricted diet now, if that means that in the future I will be less likely to develop a new disease.
8	I would prefer to have fewer medical tests and doctors' visits, even if it meant that I would not live as long.

Attitude scale (Table 1)

This Likert-type tool was developed in the US on community dwelling patients aged 65 years or older[3,8]. It has been proven useful because it evaluates the concessions that the patients are willing to make in two specific scenarios: quality versus quantity of life and present versus future health. The *Attitudes Scale* is made up of two subscales: (a) four questions evaluating quality versus quantity of life; the score for this subscale goes from 0 to 4, with a lower score meaning the respondent considers quantity of life more important than quality of life and (b) four questions evaluating present versus future health; the score for this subscale goes from 0 to 4, with a lower score meaning the respondent considers present health more important than future health.

Translation methods

An initial translation from English to Spanish was made by two different certified translators and a comparison between the documents was made, with reconciliation of differences found between the original scales and the translations to produce just one document. A third translator, who was not familiarized with the original scales, translated the document back to English from the document produced by the first to translators. A final version of the translated scales was then produced after reviewing the back translation. A cognitive revision was then carried out by an expert committee which included geriatricians, oncologists, and psychologists. A final report was made and an application was developed to use the scales in an electronic device (tablet).

Validation

Included patients completed the three translated scales using an electronic tablet in a private room at the oncology clinic. Patients could choose to have a family member present, and a research

team member was also present at all times. A brief explanation on how to use the tablet and on how to answer the tools was provided by a team member. Patients were given the option to ask for help from a relative or from a team member. Any doubts regarding the questions, as well as the need for help, were recorded in a dedicated log. At the end of the survey, two Likert-type questions asked the patients if the questions were difficult to understand or if they were bothersome.

The objectives of our study were to establish feasibility, reliability, and construct validity for the three scales. To establish feasibility, we determined that at least 70% of the included subjects had to consider the scales "easy" of "very easy" to use utilizing a 5-item Likert scale. In addition, we determined that at least 70% of included subjects had to be able to answer the scales without receiving help from relatives or from research team members. For the Likert-type attitudes scale, reliability was determined by measuring the internal consistency of both its subscales using Cronbach's alpha, considering an alpha coefficient of 0.7 as acceptable.

To determine construct validity, and in the absence of a gold standard, we studied the consistency between tools[7]. For the quantity versus quality of life component, we compared the score of the *Attitude Scale's* first subscale (quality vs. quantity of life) between patients who considered survival as the most important outcome in the *Health Outcomes tool*, and those who considered other outcomes as more important. For the present versus future health component, we compared the score of the *Attitude Scale's* second subscale (present vs. future health) between patients who considered present health as more important in the *Now versus Later item* and those who considered future health as more important. We hypothesized that the scores of the subscales would differ in accordance to patient preferences, as shown in the original validation study of the English language tools[8]. Student's t-test was used to make this comparisons, with $p < 0.05$ considered statistically significant. All data analyses were carried out utilizing Stata statistical software (StataCorp. 2017. Stata Statistical Software: Release 15. College Station, TX: StataCorp LLC).

RESULTS

Out of the 150 invited subjects, 145 agreed to answer and completed the three scales. Table 2 shows the clinical and demographic characteristics of the included patients. Median age was 73 years (range 65-88), 59% (n = 85) were women, and two-thirds had high school education or less. The most common cancer type was colon cancer (26%, n =38) followed by breast (17%, n = 25).

Table 2. Patient characteristics (n=145)

Characteristic	Value (%)
Age in years, median (range)	73 (65-88)
Gender, women	85 (59.0)
Educational level	
Never went to school but knows how to read and write	7 (4.8)
Incomplete elementary school	30 (20.7)
Complete elementary school	18 (12.4)
Middle school	8 (5.5)
High school	37 (25.5)
College degree	32 (22.1)
Master's degree or doctorate	13 (9.0)
Monthly family income	
Less than $15,000 Mexican pesos (780 USD)	110 (75.9)
More than $15,000 Mexican pesos	35 (34.1)
Cancer type	
Colon	38 (26.2)
Breast	25 (17.2)
Lung	22 (15.2)
Stomach	12 (8.3)
Liver	12 (8.3)
Prostate	11 (7.6)
Pancreas	10 (6.9)
Gynecological	8 (5.5)
Kidney	7 (4.8)
Other	17 (11.7)

Feasibility

Only 29% (n = 43) of the participants were able to answer the scales without help from a relative or from a team member. In addition, only 41% (n = 61) considered the scales "easy" or "very easy" to answer. In an exploratory analysis, we found that educational level was related with the need for help (Table 3). Only 3% (n = 4) of patients considered the questions bothersome.

Table 3. Need for help in completing the tools according to educational level (p<0.001)

Help needed	Yes	No
Never went to school but knows how to read and write	6	1
Incomplete elementary school	22	8
Complete elementary school	5	13
Middle school	1	7
High school	8	29
College degree	1	31
Master's degree or doctorate	0	13
Total	43	102

Reliability

In the *Attitude Scale's* first subscale (quality vs. quantity of life), the mean score was 2.55 (SD 0.7), which corresponds to a preference for quality over quantity of life. For the second subscale (present vs. future health), the mean score was 2.8 (SD 0.51), which means respondents chose future health over present health. The internal consistency (Cronbach's alpha) of the first subscale (quality vs. quantity of life) was 0.46, while the internal consistency of the second subscale (present vs. future health) was 0.43. In an exploratory analysis, we found that educational level did not influence the reliability of the tool.

Construct validity

Out of the 145 patients who answered the *Health Outcomes Tool,* 73% (n = 106) chose survival as the most important outcome. No differences were found in the mean score of the *Attitude Scale's* first subscale (quality vs. quantity of life) between respondents who chose survival as the most important outcome and those who chose other outcomes (symptoms, pain, and independence) as more important (Table 4).

Out of the 145 patients who completed the *Now versus Later item*, 51% (n = 74) chose future health as more important than present health. No differences were found in the mean score of the *Attitude Scale's* second subscale (present vs. future health) between respondents who chose present quality of life as the most important outcome and those who chose future quality of life as more important (Table 4).

DISCUSSION

We were unable to demonstrate the feasibility, reliability, and validity of three health outcomes prioritization tools among a population of Mexican older adults with cancer. Most of the included patients needed help to complete the assessments, and both the internal consistency and the construct validity of the scale were below acceptable levels. These results show that, for outcomes such as patient preferences and goals, tools developed in one setting might not necessarily be applicable to another, highlighting the need for cross-cultural validation of complex decision-making tools and interventions.

The increasing diversity of the world population mandates cross-cultural validation of tools to test, modify, and extend them to a more diverse population[9,10]. The cross-cultural adaptation of previously developed and validated instruments has the advantage of conserving time and energy and facilitating the building of cross-cultural knowledge[11]. However, evidence of successful cross-cultural validation exists, in some cases (such as in our study), the process highlights the necessity of creating tools addressing the specific needs of a population or an ethnic or racial subgroup, on account of a lack of proper applicability of existing instruments[8].

One potential reason for our findings might be the health literacy of the study population. There are many conceptualizations of health literacy, but almost all definitions have the same core elements describing it as the skills that enable individuals to obtain, understand, and use information to make decisions and take actions that will have an impact on their health status[12]. A study conducted in the United States exploring the relationship between low health literacy and barriers for accessing health care found that individuals with low health literacy were, on average, less educated, more likely to be from underserved racial or ethnic groups, less healthy, older, and more likely to exhibit cognitive impairment than those with adequate health literacy[13]. Reports evaluating health literacy and its relationship with outcomes in Mexican patients have shown that less than 20% had adequate health literacy levels, which less than that reported in developed countries[14]. Importantly, low health literacy was related with worse control of chronic diseases and with a higher likelihood of complication-related hospitalizations[14]. This lack of adequate levels of health literacy could partly explain the results obtained in our study since the complex scenarios presented to patients might be difficult to understand and to contextualize. On the

Table 4. Construct validity

Quality versus quantity of life		
Outcome selected in *Health Outcomes Tool*	**Mean result in *Attitude Scale* quality versus quantity of life subscale (95% CI)**	**p**
Survival is more important (n=106)	1.55 (1.3-1.8)	0.48
Other outcomes more important (n=39)	1.56 (1.4-1.7)	
Present versus future health		
Outcome selected in the *Now versus Later item*	**Mean result in *Attitude Scale* present versus future health subscale (95% CI)**	**p**
Future health (n=74)	2.9 (2.6-2.8)	0.9
Present health (n=71)	2.7 (2.7-3.0)	

bright side, health literacy can be improved through the provision of information, effective communication, and structured education, and that improvement can be assessed through the measurement of changes in knowledge and skills enabling shared decision-making. These improvements lead to improved outcomes, including changes to identifiable risk for chronic disease, and among those with established disease, reduced reported disease severity, unplanned emergency department visits, and hospitalizations[12].

Another factor which might have influenced our results is the prevailing doctor-patient relationship in our study settings. The doctor-patient relationship is modified by social norms, roles, practices, rituals, and contexts, and it has a profound effect on illness trajectories and decision-making[15]. In many cases, the doctor-patient relationship is asymmetrical, with the physician establishing dominance on the grounds of having higher resources and medical knowledge. As such, just as in other power relationships, one actor is more autonomous and the other more dependent. A recent study conducted among rheumatologists and patients with fibromyalgia treated in a public hospital in Mexico City, found that the dynamics of usual clinical visits tended to be focused on the physician's needs and priorities, and that patients had a mostly submissive attitude[15]. This suggests a doctor-centered approach, characterized by biomedical reductionism and paternalism, in which the physician acts as "the expert" whose role is to extract all information relevant to him from the patient and to apply his biomedical knowledge to come up with a correct diagnosis and treatment, without taking into account patient preferences. The existence of a doctor-centered approach in the health-care systems of developing countries might be one of the reasons why the patients included in our study found it difficult to express their preferences, since they might be used to (and expect) physicians telling them what is the best option for them.

Religiosity might also have influenced the results of our study. Approximately 89% of Mexicans are catholic, and 84% considers religion of the utmost importance[16]. Catholic patients have a tendency of choosing survival over other outcomes when compared to non-Catholic patients[16]. Deeply religious patients may experience a sense of guilt for choosing outcomes other than survival as the most important, since it may be interpreted as ingratitude[17].

In light of the difficulties found with implementing the selected tools in our patient population, other strategies might be necessary to adequately elicit patient preferences. Importantly, patients might weigh the burden of treatment against the possible outcomes and make their decisions accordingly[18]. The seminal study by Fried et al. found that the burden of treatment, its outcomes, and the likelihood of the outcomes all influence the treatment preferences of older persons who are seriously ill[18]. Participants were presented with two treatment approaches: a low-burden approach (few days of hospitalization, minor tests, and therapies) or a high-burden approach (≥1 month hospitalization, complex testing, and major interventions) for three different conditions (cancer, congestive heart failure, and chronic obstructive pulmonary disease). Using specific scenarios helped patients express their preferences more accurately, taking into account the possibility of functional or cognitive impairment, which might have a particularly important role in advance care planning[18].

Our study has some weaknesses. We included patients with various tumors and at various points in the disease continuum, which may have influenced the results. We used an electronic tablet, which could represent a challenge for older adults. In addition, our sample was collected at a single institution located in Mexico City, and thus, the included patients might not be representative or the rest of Mexican older adults in terms of health literacy. Finally, we did not include a specific evaluation of health literacy, which might have provided more granular data to explain our results.

CONCLUSIONS

Understanding patient preferences and goals are essential to achieve high-quality patient-centered care for older adults with cancer. Our results provide relevant information regarding the most adequate way to evaluate this issue among older adults living in a Latin American country. As part of our next steps, we plan to utilize our results to create a tailored and culturally appropriate tool that allows us to properly assess our patients' preferences.

CONFLICTS OF INTEREST

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ETHICAL DISCLOSURES

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

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THE JOURNAL OF LATIN AMERICAN GERIATRIC MEDICINE REVIEW ARTICLE

Coronavirus disease-19 in the older persons: Recommendations for a comprehensive inpatient care

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Abstract

Since the World Health Organization declared a pandemic status for coronavirus disease (COVID-19), the number of cases and fatalities in Mexico and the rest of the world have exponentially risen. Older persons (OPs) have been one of the populations particularly identified as vulnerable to diverse negative health-related outcomes, which could be partially explained, by the contribution of physiological changes related to the aging process, and a higher comorbidity burden. Given the current situation of a surge of cases or a second wave of the pandemic in Latin America, and the absence of a curative treatment, quality inpatient treatment of OP with COVID-19 not only relies on supportive treatment but also comprehensive care of potentially associated geriatric issues. The objective of this narrative review is to provide practical diagnostic and therapeutic considerations for the inpatient care of OP with COVID-19.

Key words: *Coronavirus disease-19. Older persons. Comprehensive geriatric assessment. Pandemic. Severe acute respiratory syndrome coronavirus 2.*

COVID-19 en personas mayores: recomendaciones para el tratamiento integral hospitalario

Resumen

Desde la declaración del estado de pandemia por la Organización Mundial de la Salud, el número de casos de COVID-19 en México y el mundo se ha incrementado de forma exponencial, al igual que el de fallecimientos. Las personas mayores (PM) se han considerado un grupo poblacional particularmente vulnerable a múltiples desenlaces adversos, lo cual podría explicarse, entre otros factores, por los cambios fisiológicos relacionados con el envejecimiento y una mayor carga de enfermedades. Dadas la situación actual y la ausencia de un tratamiento curativo, el éxito de la atención hospitalaria en las PM con COVID-19 depende no solo de las medidas de apoyo, sino de la atención integral de los problemas geriátricos adjuntos. El objetivo de esta revisión es emitir consideraciones diagnósticas y recomendaciones prácticas para el tratamiento integral de las PM hospitalizadas por COVID-19.

Palabras clave: *COVID-19. Personas mayores. Valoración geriátrica integral. Pandemia. SARS-CoV-2.*

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INTRODUCTION

Since the World Health Organization (WHO) declared a pandemic status for coronavirus disease (COVID-19), and up to January 18, 2021, almost 96 million cases, and 2 million COVID-19-related fatalities, have been reported worldwide, with a higher mortality observed in older persons (OP)[1-3]. Higher comorbidity burdens and atypical manifestations observed among older adults may participate in a late suspicion and diagnosis of COVID-19. This may also contribute to treatment delay and an increased risk for developing certain hospital-related complications such as the so-called geriatric syndromes (delirium, falls, pressure ulcers, etc.). A correct approach and management of geriatric syndromes may help reducing the risk of related negative outcomes in an already vulnerable population. Hence, the objective of this narrative review is to provide practical recommendations for a comprehensive inpatient care of the OP with COVID-19, based on the experience of a National Institute of Health in Mexico City that was transformed into a COVID-19 care center.

CASE DEFINITION IN THE OLDER PERSON

Operation definitions for suspicious or confirmed COVID-19 case do not change in the OP[4]. However, infectious diseases in the OP may course with different manifestations than those classically described[5]. Atypical manifestations of disease (i.e., delirium, hyporexia, falls, weakness, malaise, and acute functional decline) have already been described in OP with COVID-19 and may be partially explained by the interaction of factors such as age-related physiological changes, subjacent comorbidity, and pre-existing states of increased vulnerability like frailty[6-9]. Accounting for this factors, inpatient management is recommended for all the OP that develop at least one manifestation of severe disease such as dyspnea, increased respiratory rate (> 30/min), partial oxygen saturation < 93%, PaO_2/FiO_2 < 300, characteristic pulmonary infiltrates in ≥50% of the parenchyma in pulmonary computed tomography, changes in mental state (somnolence, disorientation, and delirium), severe dehydration, or acute functional loss[10].

DIAGNOSTIC CONFIRMATION IN THE OLDER PERSON

For case confirmation, viral RNA detection by polymerase chain reaction is recommended[11,12]. Likewise, clinical judgment is fundamental for the diagnostic process as it will determine the followed steps. An important notion is that a negative test in a suspicious case does not exclude the diagnosis of COVID-19, also, other laboratory studies are only auxiliary tests and should be seen as non-mandatory or specific to the diagnosis[13,14]. Emerging data on other diagnostic tools as antigen-based tests point toward usefulness in specific clinical scenarios. However, a recommendation cannot be made given the variability in local practices and resources.

INPATIENT MANAGEMENT OF THE OLDER PERSON WITH COVID-19

COVID-19 disproportionately affects OP; thus, it is appropriate to promote a person-centered approach in which personal preferences and priorities need to be accounted for.

To this day, not a specific or standardized curative treatment has been approved for this disease. Diverse published clinical trials for early promising interventions have not found the desired practice changing results. At present, the only widely available drug that has shown to reduce mortality or disease progression in a subset of persons (with severe disease or oxygen requirement), OP included, is dexamethasone[15-20]. Remdesivir and baricitinib plus remdesivir therapies are also promising[21,22].

On the other hand, performing a comprehensive geriatric assessment in the hospitalized OP (when feasible) can be seen as fundamental as this evaluation has been proved as useful for reducing length of stay, readmissions, and the appearance of other complications when compared to standard hospital care[23]. However, the inherent contact restrictions the pandemic has imposed, and the variability of resources within our health-care system may complicate the adoption of the transdisciplinary care measures needed in the OP. Nonetheless, they should be attempted when possible. Key elements for comprehensive inpatient care of OP with COVID-19 are summarized in table 1.

COMPREHENSIVE GERIATRIC ASSESSMENT ELEMENTS THAT MAY BE IMPLEMENTED ON THE HOSPITALIZED OP WITH COVID-19

An exhaustive review of all medications should be made systematically, given these patients have

Table 1. Recommendations for inpatient care of OP with COVID-19

Scenario	Recommended measures
Sensorial impairment (visual or hearing)[24,25]	Easy access to appropriate visual and hearing aids.
Preventing falls[26]	Use of walking assistive devices.
	Appropriate footwear when out of bed.
	Educational support on how to safely transfer within the room.
	Raised bed railings at night.
Delirium[24,25]	Emphasize the detection and management of pain, constipation, adequate oxygenation, hydroelectrolytic balance.
	Avoid anti-psychotic use and favor non-pharmacologic strategies for prevention and management.
	Improving communication with relatives: electronic devices (phone, text messages, and video calls).
	Promote and adequate sleep schedule (no night alarms or medications, when possible).
	Reduce the presence of invasive devices (urinary catheters, peripheral lines, etc.).
	Constantly reorient the patient if needed (adequate illumination, wall clock, and calendar).
Persons with cognitive impairment[27]	When possible, and by previous risk/benefit assessment allow physical presence of caretakers. Caretakers should be previously assessed for risk factors and should be instructed on the use of appropriate PPE. If safety policies do not permit physical contact, virtual communication assisted by hospital staffs strongly encouraged
	Careful review of drug-drug interactions if the patients was previously on acetylcholinesterase inhibitors or antipsychotics.
Constipation[24]	Always address constipation when using opiates and derivatives.
	Stimulant laxatives (senna) or osmotic agents (macrogol and lactulose) are favored in OP.
Pressure ulcer prevention[28,29]	Use of pressure reducing support surfaces.
	Periodic mobilization (each 2 h) of the patient and encourage self-mobilization when possible.
	In-room physical and occupational therapy (when safe and possible).
	Patients in prone position: adequate the endotracheal tube fixation, and protect the facial region with appropriate silicon-based coverings. Continuous education for ulcer prevention.
Nutritional risk and intake assessment	Diet prescription according to each patient's needs. Establish records for daily intake and supplement when necessary.
	Constant fluid balance and correction.
Social network	Hospital's social services should open-up and establish a constant channel for communicating with patients' relatives and favor information exchange.
Advanced directives[30]	If possible, establish patient's goals and preferences before changes in clinical state.

an increased risk of polypharmacy. The current prescription (before hospital admission) should be pondered, and non-essential drugs should be stopped[31]. A thorough drug-drug interaction search is imperative, as is the caution of prescribing potentially inappropriate drugs in this population. An easy

and quick support is the adoption of toolkits as START/STOP, and the Beers Criteria[32,33], which assist in the evaluation of potential harms of diverse drugs in OP. Digital applications may also be used for this purpose, and numerous applications are widely available.

An adequate care of concomitant chronic comorbidities should not be overlooked. Diverse specific recommendations exist for this topic in OPs care (i.e., diabetes, hypertension, and dyslipidemia) and should be applied when possible[34-36].

Frailty has been described as a state of reduced homeostatic reserve, and poor resilience, and it could be a useful indicator to identify OP with an increased risk for developing negative health-related outcomes[37,38]. The application of the FRAIL scale has been proposed during the pandemic given its easy to apply nature for the identification of frailty in OP[39]. This tool may also help the identification of persons that may benefit or not from advanced interventions without using age alone as an arbitrary criterion for this decision[40]. In this fashion, patients in the frail category will have an increased risk for complications; therefore, therapeutic decisions may be discussed early in the course of disease and be better supported[40]. Practical examples may be the cases of OP that develop admission criteria for the ICU and have a previous frailty status; this group of patients tend to have disproportionately high mortality rates, and in some scenarios, supportive care may better address the needs of those patients[41]. On the other hand, the so-called fit OP may course with similar in hospital trajectories respect to younger patients.

Physical activity has shown diverse benefits in hospitalized OP (including those with frailty) as it has been associated with a reduction in mortality and cognitive or functional decline[42]. An ideal physical activity program includes strength, resistance, balance, and gait training (multicomponent)[43,44]. One example is the Vivifrail® program which adapts the intervention to the patient's characteristics (robust, risk of falls, prefrailty, frailty, etc.). In the case of hospitalized OP with COVID-19, pre-hospital physical performance should be considered, and contact measures should be respected by patients and health care workers (exercise passports can be downloaded in http://vivifrail.com/es/documentacion/[43]).

Delirium is a geriatric syndrome frequently found in hospitalized OP, and its presence should be interpreted as a red flag[45]. A reduced availability of visitors and caretakers (isolation), underlying sensorial and cognitive impairment, poor communication with health care workers (personal protective equipment covers the lips), polypharmacy (psychotropic, anticholinergic), and incident complications (hydroelectrolytic alterations, organic failure, coinfections, etc.) may contribute as predisposing and precipitant factors for delirium in hospitalized OP with COVID-19, especially in people with a higher preexisting vulnerabilities (i.e., cognitive impairment, frailty, and sensorial impairment)[45,46]. Acute withdrawal of sedative or psychoactive drug can also precipitate delirium[45] and this situation should be considered in patients coming from ICUs or history of recent invasive mechanical ventilation. Other reversible conditions that should be looked for in the presence of delirium are pain, constipation, dyspnea, dehydration, hypoxemia, and medication/substance withdrawal[24,25]. When feasible, the adoption of an adequate sleep routine, temporal and physical reorienting (calendars and wall clock), easy access to hearing and visual aids, and promoting communication with the patient's relatives (phone and video calls) should be attempted[24,45]. It is also imperative to discourage physical restraint, and if pharmacological management for agitation is considered, potential drug-drug interactions and adverse effects should be taken in account[24,25].

Unfortunately, pressure ulcers are frequent in hospitalized OP, particularly in persons with previously reduced mobility, and in ICUS[28,47]. Thus, pressure reducing support surfaces, periodic mobilization (active or assisted), and physical/occupational therapy should be considered in hospitalized OP[28,29].

On the same vein, when appropriate measures are not established, falls may present in the context of hospitalization, and they are associated with an increased risk of subsequent disability. Even in the context of COVID-19, the access to walking assistive devices, and educational measures to promote appropriate footwear and safely transferring within the room may reduce the risk of in hospital falls[48]. Other measures as intermittent supervision by hospital staff, easy access to basic personal care/toiletry material, adequate illumination, and assistance when entering the bathroom may also reduce the risk of falling[26,49].

Underlying cognitive impairment is a highly prevalent condition in hospitalized OP, and an appropriate care of this person has constituted a real challenge during the COVID-19 pandemic[50,51]. It must me underlined that for this group of patients (especially for persons with moderate or severe cognitive impairment), hospital admission represents an acute stressor and frequently exacerbates behavioral symptoms of

dementia, precipitates delirium, and may increase mortality risk[51]. Among the challenges of applying contact measures protocols to persons with cognitive impairment are the difficulty that family or caregivers face to access COVID-19 hospital wards, so, it is advisable to individualize cases and consider the access to key caregivers, as they can better address particular needs of this patients. Previous training on the appropriate use of the needed personal protective equipment should always be sought beforehand in these cases[27]. However, a thorough risk/benefit assessment should also be done before the establishment of this intervention.

When possible during hospitalization or before the admission to ICU, each patient goals and preferences should be considered and respected, either what the patient directly expresses or by the decision of a facultative person, namely, respecting their advanced directives. This discussion should cover the decision on advanced or invasive treatment (mechanical ventilation). In all these scenarios, patients' comfort and best interests should always be kept in mind[30].

Other equally important measures are avoiding immobility, acknowledging its potential consequences over functional abilities in OP[52]. Thromboembolic risk needs to be assessed, and preventive measures applied in each patient[53]. The use of prophylactic or therapeutic doses of anticoagulants has increased during the pandemic[54,55]; however, its use specifically for COVID-19 remains an expert recommendation strategy. Sensorial impairment (visual and hearing) should be contemplated during hospitalization by promoting appropriate use of eyeglasses and hearing aids when necessary[24,25]. Attention to nutritional status and daily ingestion in OP should be kept (even corroborating that dentures are in pace), as hospitalizations for acute medical conditions increase the risk for malnutrition and its related adverse outcomes[56]. Likewise, its highly advisable that eventually all the OP receive a clear and well-structured discharge plan, which indicates in-detail what will be the needed measures to adopt at home, and that states potential complications. Finally, OP should not be exempt of the application of strict hygiene and contact measures during hospitalization and the recommended days after discharge.

PREVENTIVE STRATEGIES

One of the widely cited pillars for reducing the transmission and infection by severe acute respiratory syndrome coronavirus-2 is physical distancing. Taking this in account, and to avoid a potentially associated increase in the risk of social isolation, certain strategies have been promoted such as continuous remote contact (phone, email, video calls, etc.) with close persons and depending the case with neighbors, continuing safe open air activities (gardening), maintaining physical activity, and relying on close contacts to help them with certain chores (groceries, payments, and drugstore), or if they feel overwhelmed with the current situation[57].

CONCLUSIONS

The COVID-19 pandemic keeps confronting us with new challenges whose extents and limits are not yet fully known, and it is currently difficult to anticipate the degree of impact the pandemic has posed on the OP population. As until today no specific treatment or vaccine has been globally adopted, preventive strategies remain mandatory. Physical distancing, hand hygiene, face masks, avoiding social gathering, and non-ventilated spaces continue as the needed, easy to apply, and efficient emergent strategies against the pandemic. Comprehensive inpatient treatment of OP with COVID-19 may improve certain outcomes during hospitalization and after discharge. Despite the elevated mortality in OP with COVID-19, it needs to be highlighted that the majority of patients with the disease will get better, even hospitalized patients, hence the importance of the integral proposed care, as well as the avoidance of ageist behaviors that arbitrarily exclude OP from a better attention.

CONFLICTS OF INTEREST

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Protection of people and animals. The authors declare that no experiments were performed on humans or animals for this research.

Confidentiality of the data. The authors declare that no patient data appear in this article.

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